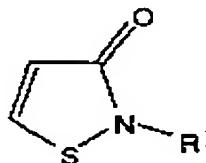
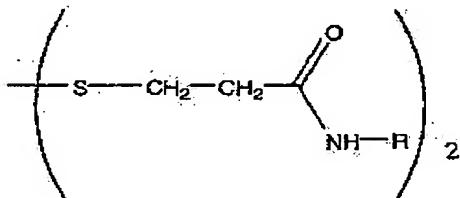


WHAT IS CLAIMED IS:

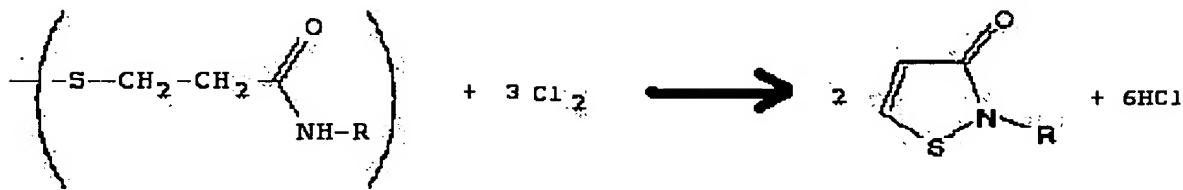
1. An industrial disinfectant composition comprising, as an effective component, a 2-alkyl-4-isothiazoline-3-one represented by the formula (III),



which is obtained by reacting the compound represented by formula (II),



with chlorine as a chlorinating agent in dichloromethane as a solvent, in which hydrogen chloride is insoluble or exhibits low solubility, at a temperature of 39-41°C, according the reaction formula represented by:



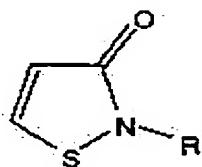
wherein R in the compounds of formulae (II) and (III) represents an alkyl group or aralkyl group of C1 to C8, and

wherein the amount of a 5-chloro-2-alkyl-4-isothiazoline-3-one contained in the 2-alkyl-4-isothiazoline-3-one produced is less than 0.1%.

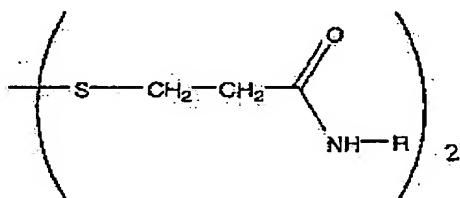
2. The method producing a 2-alkyl-4-isothiazoline-3-one as defined in claim 1, wherein the R represents a methyl group.

3. The method producing a 2-alkyl-4-isothiazoline-3-one as defined in claim 1, wherein the R represents a normal octyl group.

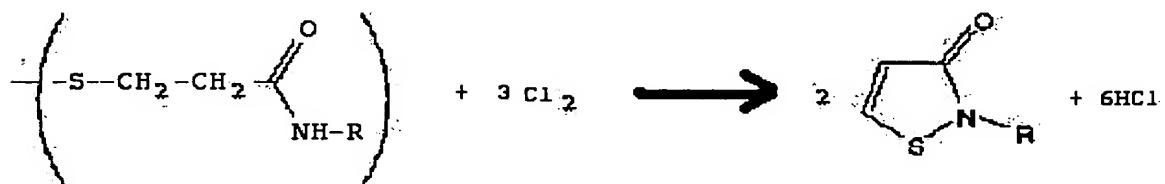
4. An industrial disinfectant composition comprising, as an effective component, a 2-alkyl-4-isothiazoline-3-one represented by the formula (III),



which is obtained by reacting the compound represented by formula (II),



with chlorine as a chlorinating agent in dichloromethane as a solvent, in which hydrogen chloride is insoluble or exhibits low solubility, at a temperature of 39-41°C, according the reaction formula represented by:



filtrating a hydrochloride salt of the compound of formula (III) obtained from the reaction of the compound of formula II with chlorine, and

washing the hydrochloride salt with a solvent which is inert to the hydrochloride salt and in which the hydrochloride salt exhibits low solubility,

wherein R in the compounds of formulae (II) and (III) represents an alkyl group or aralkyl group of C1 to C8, and

wherein the amount of a 5-chloro-2-alkyl-4-isothiazoline-3-one contained in the 2-

alkyl-4-isothiazoline-3-one produced is less than 0.1%.

5. The method producing a 2-alkyl-4-isothiazoline-3-one as defined in claim 4, wherein the R represents a methyl group.

6. The method producing a 2-alkyl-4-isothiazoline-3-one as defined in claim 4, wherein the R represents a normal octyl group.